

Can Public Leadership Increase Public Service Motivation and Job Performance?

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Abstract

To advance our understanding of leadership in the public sector, we study the link between accountability, rule-following, political loyalty, and network governance leadership and employees' public service motivation (PSM) and individual job performance. Using a sample of 300 civil servants and their 64 managers in China, we found that accountability, rule-following, political loyalty, and network governance approaches to leadership are all significantly positively related to employees' PSM levels and job performance. The results of multilevel modeling show that network governance leadership had the strongest positive relationship with both PSM and job performance, suggesting that managers should encourage public employees to initiate and maintain contacts outside their organizations to access relevant information, technical expertise, and resources that may be not be available internally.

Evidence for Practice

- Our study shows evidence of the distinctiveness of four public leadership approaches: accountability leadership, rule-following leadership, political loyalty leadership, and network governance leadership.
- All four public leadership approaches are positively related to PSM and increase job performance.
- Network governance leadership is most strongly related to PSM and follower job performance.

Key Words: Public leadership, public service motivation, performance, China.

There have been many important studies that demonstrate that leadership can increase both individual and organizational performance in public agencies (e.g., Bellé 2014; Jacobsen and Andersen 2015; Oberfield 2014). Research on leadership in public sector organizations has also made substantial contributions to the leadership literature at large. Max Weber (1947) conceptualized charismatic leadership based on his work on bureaucracies. James MacGregor Burns (1978) originated transformational leadership in his path-breaking study of political leadership. Ospina (2017) and Van Wart (2013) noted that the study of public sector leadership continues to have much to offer for other sectors as public managers face some of society's most pressing challenges and wicked problems defying easy answers (Weber and Khademian 2008), such as global warming, environmental degradation, and migration.

Instead of ignoring the publicness of the context and focusing on leadership rather than *public* leadership (Vogel and Masal 2015), some researchers have developed new leadership constructs to examine the characteristic features associated with the public setting. Following earlier work by Fernandez (2005) and Fernandez, Cho, and Perry (2010) on integrative leadership, Tummers and Knies (2016) introduced four approaches to public leadership: accountability leadership (justifying actions to stakeholders), rule-following leadership (acting in accordance with regulations), political loyalty leadership (advancing the will of politicians), and network governance leadership (connecting with others). While this was an important step in establishing that leaders within the public sector have different roles than those in the private sector, our article extends this work by analyzing the relationship of public leadership with two key constructs in the public administration literature: public service motivation (PSM) and performance (Perry, Hondeghem, and Wise 2010).

PSM has been a cornerstone of public management research since Perry and Wise's (1990) seminal work (Ritz, Brewer, and Neumann 2016). Defined as “a particular form of altruism or prosocial motivation that is animated by specific dispositions and values arising

from public institutions and missions” (Perry, Hondeghem, and Wise 2010, 682), PSM has been shown in past research to be a key mechanism that explains how leaders influence employees’ job performances in the public sector (Paarlberg and Lavigna 2010). Based on social learning theory (Bandura 1977), Wright, Hassan, and Park (2016) argued that public sector leaders act as role models for employees to emulate the attitudes and behaviors they communicate and encourage. Similarly, we argue that the public leadership approaches are positively related to employees’ PSM and job performance as public leaders model different types of positive public service behaviors when they adopt different leadership approaches (e.g., accountability leadership encourages civil servants to explain their actions to citizens).

Whereas Vogel and Masal (2015) noted that the vast majority of empirical public leadership studies have been conducted in the Anglo-American context, we use a sample of 300 civil servants and their 64 supervisors from a water resource bureau and an environmental bureau in China. Public leadership and performance improvements are clearly required in this context as recent studies estimate that more than half of the 1.4 billion Chinese citizens drink contaminated water (Yu et al. 2015) and that there are more than one million air pollution-related premature deaths per year in China (Zhao et al. 2019). While the recent major amendments to the Chinese Water Pollution Prevention and Control Law and the Environmental Protection Law delegated more authority to environmental protection officers to discipline the polluters, implementation of the laws has been poor and has not lead to the desired improvements (Hart, Jiayan, and Jiahui 2018).

We argue that by adopting the four public leadership approaches, supervisors in the public sector become role models for employees to follow and emulate, which may have a positive impact on employees’ PSM and, in turn, is related to employee job performance. In doing so, we make three main contributions. First, extending the original work by Tummers and Knies (2016), this is the first study to analyze the links between the four public

leadership approaches and PSM and job performance. Second, we build on the PSM and job performance literature (Warren and Chen 2013) by examining potential public leadership antecedents of both constructs and do so in a rigorous methodological manner. To overcome methodological shortcomings, our study uses independently collected data sources, with public leadership and PSM rated by the employees and their job performance rated by their direct supervisors across three different time points. We also test our hypotheses using multilevel modeling. Third, by focusing on the role-modeling potential of public leadership behaviors, we extend the use of social learning theory (Bandura 1977) to explain the process by which leaders in the public sector may influence their followers' job performance through enhancing their PSM.

This article will first introduce the four public leadership approaches and demonstrate their importance in the public sector. Following this, we review the literature on PSM and job performance and develop our hypotheses accordingly. After describing the data collection methods and empirical context of our study, we analyze the distinctness of the measures and present the results of our multilevel hypothesis tests. Finally, after discussing the findings and implications of the study, we outline potential future research for public leadership.

Theory and Hypothesis Development

Public Leadership

To gain a better understanding of public leadership and its influence on followers, Van Wart (2003) suggested that comprehensive models be developed that combine various leadership theories and approaches. Following Fernandez (2005), Fernandez, Cho, and Perry (2010) designed and tested an integrated five-factor leadership model that included task-, relations-, change-, diversity-, and integrity-oriented leadership and found a significant relationship between integrated leadership and federal program performance.

Whereas components of the integrated leadership model were based on private-sector research, Tummers and Knies (2016) highlighted four public leadership roles that are particularly relevant in public organizations. The first three roles (accountability, rule-following, and political loyalty) are bureaucracy-specific approaches that relate to the leaders' obligations under this system. The fourth (network governance) was added due to the importance of managing networks and the prominence that networks are gaining in the public sector (e.g., Agranoff 2007). Tummers and Knies (2016) argued that a leader could move from one role to another depending on the situation and that these four approaches were sub-dimensions of a larger 'public leadership' construct. These sub-dimensions as well as their relation to PSM will be described in detail in the next section.

Public Leadership and Public Service Motivation

PSM theory represents an alternative to the rational choice theories that suggest that people's behavior is solely based on their self-interest (Perry and Wise 1990). Instead, PSM theory argues that human behavior is driven not only by self-concern but also by altruistic and other-regarding motives with the purpose of doing good for society (Perry, Hondeghem, and Wise 2010). Following Perry's (1996) seminal work, PSM is usually composed of four dimensions (Kim and Vandenabeele 2010; Kim et al. 2013). Attraction to public participation refers to a desire to do public work and to contribute to the public policy process based on instrumental motives. Commitment to public values is a disposition to uphold commonly held values, such as equal opportunities and ethical behavior, due to value-based motives. Compassion represents a concern for particular groups or people in need based on identification and affective motives. Finally, self-sacrifice places the good of society above personal advancement, emphasizing the altruistic and pro-social roots of PSM.

In recent public administration research, the behaviors of direct supervisors have been explored as an important antecedent to employees' PSM (Paarlberg and Lavigna 2010). For example, Wright, Hassan, and Park (2016, 651) found that ethical leadership behaviors from the direct supervisor had a positive effect on employees' PSM, arguing that ethical leaders "communicate, encourage, and hold subordinates accountable for ethical and unethical conduct" and through this process, employees who exhibit ethical behavior are more likely to be rewarded by the leader. Similarly, Schwarz and colleagues (2016) demonstrated that servant leadership increased employees' PSM by emphasizing to employees the importance of serving the community at large. Both examples given draw on social learning theory (Bandura 1977) to explain the relationship between leadership behaviors and PSM. Social learning theory purports that individuals learn required and appropriate behaviors at work through watching and emulating credible role models. The supervisor is often seen as a credible role model due to his or her position and/or because he or she exhibits positive behaviors that employees believe are worth emulating.

Accountability leadership promotes dialogue and encourages employees to justify their actions to their wider stakeholders, including politicians, citizens, and nongovernmental organizations (Roberts 2003). Accountable leaders encourage employees to be open and honest with their internal and external stakeholders and keep them informed of their progress and decisions. In doing so, they demonstrate a commitment to public values that emphasizes ethical behavior and equality (Mulgan 2000). Kim et al. (2013) list accountability among the commonly held public values that highly public service motivated individuals pursue. Civil servants also display self-sacrifice when they are transparent about their actions even if it hurts them.

Rule-following leaders encourage rule-driven behavior that is trans-situational and not actor-specific (Klijn and Koppenjan 2016), urge employees to adhere to governmental rules

and regulations, and take active steps in ensuring that these are followed (Tummers and Knies 2016). Rule-following leaders foster PSM in employees by role modeling how following government policies and laws can contribute to the public good, building on key areas of PSM, such as attraction to public participation, commitment to public values, and self-sacrifice (Tummers and Knies 2016). Perry (2000, 484) noted that “a respect for rules may be closely associated with the desire to obtain the common good.”

Political loyalty leadership is defined as motivating employees to follow through on politicians’ decisions, even when they are costly to them. Tummers and Knies (2016) argue that there is a principal-agent relationship (Jensen and Meckling 1976) between politicians and civil servants and that civil servants (agents) are responsible for delivering on promises made by politicians (principals). Leaders with high levels of political loyalty encourage and reward employees for following through on policy directives even when they personally disagree and or if a bill negatively affects their own department (Heidari-Robinson 2017). Managers who display political loyalty leadership behaviors demonstrate to their employees that they are committed to the public sector and the politicians, even if it means making sacrifices for the public interest (Tummers and Knies 2016). The idea of self-sacrifice for the public good is a tenet of the PSM literature (Perry, Hondeghem, and Wise. 2010) and has been described as “the footing on which PSM rests” (Kim and Vandenabeele 2010, 704).

Finally, *network governance leadership* is shown when public leaders actively encourage employees to network and connect with various stakeholders within their own organization and in the wider community (Tummers and Knies 2016). Although not a traditional public administrative role, this leadership approach has gained importance due to the increase in collaborations across departments and partnerships with private sector and nonprofit organizations to solve wicked problems (Mosley and Jarpe 2019) characterized by substantive, strategic, and institutional complexities that defy artificially created jurisdictional

and organizational boundaries (Kettl 2006; Klijn and Koppenjans 2016). These leaders expand employees' network and knowledge of who their stakeholders actually are, which helps employees to put faces to the departments, agencies, and communities they serve. Therefore, employees are able to see how, for example, protecting water resources and air quality benefits the broader public, and this helps fuel their prosocial and altruistic motivations (Perry, Hondeghem, and Wise 2010). Previous research showed that PSM is strongly related to social impact perceptions (Bellé 2014).

Taken together, we expect that the display of each of the four public leadership approaches should be related to follower PSM. This leads us to the following:

Hypothesis 1a: Accountability leadership will be positively related to follower PSM.

Hypothesis 1b: Rule-following leadership will be positively related to follower PSM.

Hypothesis 1c: Political loyalty leadership will be positively related to follower PSM.

Hypothesis 1d: Network governance leadership will be positively related to follower PSM.

Public Leadership, Public Service Motivation, and Job Performance

The link between effective leadership and follower performance has been well established in the literature, demonstrating that when leaders provide vision, motivation, and support to their followers, followers reciprocate in kind with higher levels of performance (Paarlberg and Lavigna 2010). We expect that the four public leadership approaches will have similar results.

Accountable leadership demonstrates to employees the importance of being transparent and keeping stakeholders regularly informed of the decisions that they make. On an institutional level, Han (2019) found that accountability was significantly related to agency performance. A high level of accountability to internal and external stakeholders

should translate into higher job performance as employees should be motivated to work hard and strive to avoid mistakes because they know that their work will be monitored (Mulgan 2000).

Rule-following leadership emphasizes adherence to processes and procedures. These policies show employees what is expected and provide them with the tools and knowledge to complete their jobs. March and Olsen (2008, 695) observed that “rules, for example, increase action capabilities and efficiency – the ability to solve policy problems and produce services.” Providing employees with clear direction and assistance should enable employees to better complete their tasks to required standards.

Political loyalty leadership emphasizes that employees should align their actions with political interests, even if it is costly for them (Tummers and Knies 2013). Hong and Kim (2019) found that political principals reward civil servants’ loyalist behavior if accompanied by acceptable levels of performance. Following government priorities can be expected to increase performance as it prevents employees from engaging in counterproductive activities that are not aligned with other initiatives and facilitates the coordination of multiple simultaneous activities (March and Olsen 2008).

Finally, *network governance leadership* should be related to employees’ performance as the leader actively encourages employees to maintain and expand their networks and leverage such networks to complete tasks, collaborate, and deliver on governmental promises (Klijn and Koppenjan 2016). Supervisors who encourage their employees to build and maintain contacts outside their department and organization enable them to access relevant information, technical expertise, and resources that may be not be available inside their departments and to work together with, e.g., private and nonprofit organizations, which should translate into better results (Hall and Battaglio 2018).

We argue that the relationships between the four public leadership approaches and employee job performance will be partially mediated by employees' PSM. We argue for a partial, rather than a full, mediation, as we acknowledge that there are multiple attitudinal and situational factors that exist in this relationship. Proposition 2 in Perry and Wise's (1990, 370) original work on PSM stated that "in public service organizations, PSM is positively related to individual performance." Perry and Wise (1990) suggested that the relationship between PSM and job performance occurred because individuals who possess PSM see the public work they are doing as highly meaningful. As individuals are able to do what they perceive as meaningful work and live out their values and convictions on a daily basis, this, in turn, should be positively related to an increase in job performance. Numerous studies have examined the connection between PSM and performance (Warren and Chen 2013; Schott, Van Cleef, and Steen 2015), with the overwhelming majority of studies finding a positive relationship (e.g., Andersen, Heinesen, and Pedersen 2014; Bellé 2013; Schwarz et al. 2016).

Therefore, as highlighted earlier, given that the four public leadership roles should be positively related to PSM and that PSM should be positively related to follower job performance, we argue that PSM will act as a partial mediator between the public leadership roles and the job performance of public sector employees.

Hypothesis 2a: PSM will mediate the relationship between accountability leadership and follower job performance.

Hypothesis 2b: PSM will mediate the relationship between rule-following leadership and follower job performance.

Hypothesis 2c: PSM will mediate the relationship between political loyalty leadership and follower job performance.

Hypothesis 2d: PSM will mediate the relationship between network governance leadership and follower job performance.

Public Leadership and Public Service Motivation in a Chinese Water and Environmental Context

Home to one-fifth of the world's population, China possesses less than 6% of the global water resources (Yu et al. 2015). The increasingly serious shortfalls and challenges are exacerbated by uneven spatial and temporal water distribution and pollution from the rapid economic development that transformed China into the world's largest emitter of greenhouse gases (Hart, Jiayan, and Jiahui 2019). In this context, the four public leadership approaches are very relevant to combating environmental degradation.

Accountability leadership is necessary because Chinese public administration aims at becoming more transparent and accessible to society (Jing 2010). The Chinese Information Transparency Ordinance, for example, makes the responsibilities, procedures, and performance of civil servants public and allows citizens to hold them accountable for their decisions when standards are not met (Xue and Liou 2012). Provincial leaders are increasingly held accountable for meeting environmental targets in addition to the traditional focus on economic growth that provided performance legitimacy to the Communist Party (Hart, Jiayan, and Jiahui 2019).

While “the traditional Chinese public administration was not a system of rule of law” (Jing 2010, 45), due processes were strengthened through the enactment of several administrative procedural regulations, which make *rule-following leadership* more important. To reverse the traditional weak and selective enforcement of water-related and environmental laws (Linster and Yang 2018), rule-following leaders emphasize the importance of executing legislation consistently. In their study on rule abidance among Chinese frontline officers, Zang and Musheno (2017) found that the majority were rule followers. Rule following ensures predictability and prevents abuses of power and corruption that can seriously hurt the government's legitimacy and threaten the one-party rule (Zhu, Huang, and Zhang 2019).

Political loyalty leadership is relevant because the Chinese constitution recognizes the Communist Party's political leadership over all branches of government, and civil servants are expected to serve their political masters unconditionally (Jing 2010). Introducing a Western-style politically neutral civil service was briefly considered in the 1980s but was not implemented because separating the Party and the government would have reduced the Party's ability to influence personnel decisions and to ensure stability in the administration (Podger and Chan 2015). Provincial leaders can demonstrate their loyalty to the Communist Party by encouraging subordinates to support the new political priority of environmental protection even though this may hurt provincial economic growth (Hart, Jiayan, and Jiahui 2019).

Lu (2015, 211) noted that in the Chinese public sector, "networking with stakeholders outside the government, in particular, citizens, media and or nonprofit organizations, is historically not common." Encouraging civil servants to establish relationships through *network governance leadership* is important as Chinese water resource and environmental agencies increasingly collaborate with other ministries and actors in designing and delivering public services (Hart, Jiayan, and Jiahui 2019). The 2015 Plan on Environmental Monitoring Network Construction was enacted to improve the accuracy of environmental data and to facilitate information exchange and cooperation among organizations (Linster and Yang 2018).

All four PSM dimensions (Kim and Vandenabeele 2010; Kim et al. 2013) are very relevant in a Chinese water resource and environmental policy context. Attraction to public participation is relevant due to civil servants' opportunities to contribute to environmental policy making and program implementation that reduce pollution. Commitment to public values emphasizes civic duty and a calling for the continuous provision of equitable and ethical public service that protects the environment for future generations. Compassion

relates to the affective bonding with specific individuals and groups such as citizens suffering from water and air pollution. Finally, self-sacrifice encompasses the willingness to forgo tangible personal rewards to help the environment.

Methods

Sample and Procedures

We collected the data for this study from civil servants working in a water resource bureau and an environmental bureau in a prefecture-level (below the provincial and above the county level) city in China's Shandong province. The bureaus can be categorized as people-processing negative service providers (Van Loon, Leisink, and Vandenabeele 2013) that deal with many users and prohibit certain behavior, such as pollution, for the greater good. These bureaus monitor compliance with water and environmental laws for multiple organizations; they provide unwanted services because the users are the organizations whose compliance with environmental rules and regulations is investigated and not the general public that benefits from safer water and air. The bureaus supported our study and encouraged their employees to participate in our survey. All participating employees had a close working relationship with their immediate supervisors. All questionnaires were translated from English into Chinese following Brislin's (1993) back-translation procedure. Before the questionnaires were distributed, the prospective respondents were told that participation was voluntary and that their individual responses would be confidential and would not be shared with their bureaus.

Data were collected in three phases. At time one, employees rated the accountability, rule-following, political loyalty, and network governance leadership behaviors of their immediate supervisors and provided demographic information. One month later, at time two, all employees who completed the first questionnaire were invited to rate their own PSM

level. At time three, another month later, their immediate supervisors were asked to rate the job performance of each employee. The supervisors also provided their own demographic information.

In total, 300 employees working in 64 teams completed both questionnaires. Teams had between 3 and 9 members ($M = 4.94$; $SD = 1.18$). The average age of the participants was 34 ($M = 34.02$; $SD = 5.75$), 53% were female, and 79% had at least a college degree. On average, the employees had been working for the organization for six years ($M = 5.91$; $SD = 3.39$) and for their current supervisor for an average of nearly four years ($M = 3.84$; $SD = 2.47$). The average age of the supervisors was 42 ($M = 41.99$; $SD = 4.97$), and 42% were female. Exactly three-quarters of the supervisors had a college degree. The supervisors had been working for their organizations for almost 14 years on average ($M = 13.64$; $SD = 4.80$) and had held their present positions for an average of 10 years ($M = 9.87$; $SD = 3.80$). The response rate was 63%.

Measures

The study utilized multi-item scales that have been validated in previous studies. Each of the items was measured using a 5-point Likert scale with 1 = strongly disagree and 5 = strongly agree.

Leadership was measured with the four *public leadership* scales developed by Tummers and Knies (2016). A full list of items can be found in table 1.

PSM was measured using the five-item Merit Systems Protection Board scale adapted from the original 40 items by Perry (1996). This scale has been used extensively in prior research (Naff and Crum 1999; Wright, Christensen, and Pandey 2013) and specifically with samples from China (e.g., Miao et al. 2018; Schwarz et al. 2016). A sample item includes: “Meaningful public service is very important to me.”

Individual job performance was measured using a three-item scale created by Lam, Chen and Schaubroeck (2002). A sample item includes: “This employee has performed his/her job well.”

The *control variables* were selected based on their respective impact on job performance in previous research. For example, studies have shown that the age (Van Loon 2017), education (Tummers 2017), and gender (Pitts 2009) of employees have an influence on their performance rating. Tenure is often used a proxy for work experience, with employees who spend more time under a leader or in a team accumulating more relevant skills and performing their job at a higher level (Lavigna 1992). Thus, at the individual level, employees’ demographic characteristics were used as control variables and included age, gender, education, tenure under their supervisor, and tenure at the organization. At the team level, the demographics of the leader and team size were used as controls because meta-analytical evidence demonstrates that the traits of a leader (Derue et al. 2011) and team size (Stewart 2006) can influence employees’ performance.

Analysis of the Public Leadership Scales

As the public leadership measures have only been validated once, in the Netherlands (Tummers and Knies 2016), we conducted a series of confirmatory factor analyses (CFAs), calculated their internal consistency, and examined their multilevel properties. CFAs are used to test whether the measures of the four public leadership constructs are consistent with the theory.

First, we ran a single-level CFA on the four public leadership measures using a maximum likelihood estimation on MPlus. As shown in table 1, all items loaded strongly onto their corresponding factor. The measurement model showed good fit for the data at the individual level $\chi^2 (df = 183) = 325.54$, RMSEA = .051 (90% CI [.042 .060]), TLI = .952,

CFI = .958, SRMR = .049. As the four latent variables were conceptualized as related constructs in the original work on public leadership (Tummers and Knies 2016), we conducted a second-order CFA to verify the loadings of each of the four latent measures on a larger ‘public service leadership’ measure. The results of the measurement model indicated a good fit to the data, $\chi^2 (df = 185) = 325.83$, RMSEA = .050 (90% CI [.041 .059]), TLI = .953, CFI = .958, SRMR = .049, with the factor loadings ranging from .424 to .803. Consistent with Tummers and Knies (2016), political loyalty leadership was the weakest loading latent variable. Thus, our results confirm the factor structure of the four public service leadership measures. We also conducted a two-level CFA to determine the distinctness of the measures at the team level. The two-level measurement model showed good fit for the data, $\chi^2 (df = 366) = 726.28$, RMSEA = .057, TLI = .903, CFI = .916, SRMR = .049.

Second, we assessed the public leadership scales’ reliabilities by examining their Cronbach’s alphas at the individual and team levels. All four public leadership scales demonstrated high reliability (see table 1).

Third, to determine whether the scales can be analyzed at the team level, we calculated the interclass correlations (ICCs). ICC(1) and ICC(2) were generally acceptable for each of the leadership measures; however, the ICC(2) for accountability leadership was weaker than the others. ICC(2) values can often be affected by small group sizes, as observed in this sample ($M = 4.68$), and in these cases, LeBreton and Senter (2008) argue that ICC alone should not be used to justify aggregation. Therefore, we calculated the median r_{WGJ} values to ascertain whether there were high levels of within-group agreement (James, Demaree, and Wolf 1984). Using a uniform null distribution, the median r_{WGJ} values were strong for each of the public leadership scales. Taking these results together with the ICC values and the theoretical justification for aggregating the measures to the team level, each of the public leadership measures are aggregated in further analyses.

[Table 1 here]

Method of Analysis

As the data were nested within teams, multilevel modeling using a maximum likelihood method with robust standard errors was used. Multilevel modeling is appropriate for nested data where the assumption of independence of observations is violated (Raudenbush and Bryk 2002). To test for the mediation effects, we performed multilevel structural equation modeling in Mplus following the recommendations of Preacher and Hayes (2008). To construct the confidence intervals for the indirect effects of the mediation, we used the Monte Carlo method of confidence interval construction with the recommended 20,000 replications (Preacher and Selig 2012). The Monte Carlo method is a flexible model for estimating confidence intervals around the indirect effects when bootstrapping is not feasible, such as with complex multilevel data (Preacher and Selig 2012). To confirm the criterion-related validity of the public leadership measures independently, we tested each measure in separate models.

Results

Common Method Variance and Confirmatory Factor Analysis

We applied both procedural and methodological remedies to address potential issues with common method variance in our study (Andersen, Heinesen, and Pedersen 2016). First, we applied a number of procedural remedies informed by the common method variance literature (George and Pandey 2017; Podsakoff, MacKenzie, and Podsakoff 2012). This process included using different respondents for the independent and dependent variables (i.e., supervisor and subordinates); using multiple raters on the leadership variables (i.e., multiple subordinates per supervisor); temporal separation of the measures (i.e., the variables were

measured at three different points in time that were one month apart); ensuring the questionnaires were anonymous; reducing the ambiguity of questions by only using pre-established measures; and counterbalancing the questions (randomized order).

Second, we conducted two statistical remedies to determine whether common method variance is affecting our results. The first is a marker variable technique (Lindell and Whitney 2001), where a variable that is theoretically unrelated to the model is used as a “marker” or surrogate for common method variance. We used the position of the employee in the organization as the marker variable as there is not a theoretical reason why position should be related to the leadership of their manager or the outcome variables. The smallest observed correlation between the marker variable and the variables used in this study was $r = .001, p = .982$. As the correlations are weak and non-significant, this suggests that there is not a substantial amount of common method variance in this study (Lindell and Whitney 2001).

The second statistical remedy was to run a CFA to establish the discriminant validity of the public leadership, PSM, and job performance measures to test whether each of the latent variables was measuring distinct constructs within the model (a variation of Harman’s single factor test). First, the observed variables were loaded onto their six respective latent factors (accountability, rule-following, political loyalty, and network governance leadership, PSM, and job performance). The six-factor measurement model demonstrated a very good fit to the data, $\chi^2 (df= 362) = 609.09$, RMSEA = .048 (90% CI [.041, .054]), TLI = .933, CFI = .940, SRMR = .053. An alternate three-factor model in which all four leadership measures (accountability, rule-following, political loyalty, and network governance leadership) were loaded onto the same factor, yielded a worse fit, $\chi^2 (df= 374) = 2067.535$, RMSEA = .123 (90% CI [.118, .128]), TLI = .553, CFI = .588, SRMR = .114. A one-factor model, where all observed variables were loaded onto a single factor, also produced a worse fitting model, χ^2

($df=377$) = 2662.584, RMSEA = .142 (90% CI [.137, .147], TLI = .401, CFI = .444, SRMR = .129. These results provide evidence for the distinctness of the measures used in this study as the best fitting model was the one in which the observed variables were modeled onto their respective six latent factors used in the hypotheses.

Hypothesis Testing

Table 2 presents the means, standard deviations, bivariate correlations, and alphas of the study variables. Hypotheses 1a-1d suggested that each of the four public leadership approaches would be related to higher PSM levels among employees. As predicted, accountability leadership ($\beta = .31, p < .01$), rule-following leadership ($\beta = .31, p < .01$), political loyalty leadership ($\beta = .18, p < .05$), and network governance leadership ($\beta = .47, p < .01$) all were significantly positively related to employee PSM.

Hypotheses 2a-2d predicted that each of the four public leadership approaches would be positively related to employees' job performance indirectly through increasing employees' PSM. As shown in table 3, PSM mediated the relationship between political loyalty leadership and job performance (indirect effect = .04 (95% CI [.000, .091])). This result indicated that when PSM was present in the model, there was no relationship between political loyalty leadership and job performance. PSM partially mediated the relationship between accountability leadership and job performance (indirect effect = .06 (95% CI [.013, .126])), rule-following leadership and job performance (indirect effect = .06 (95% CI [.012, .134])), and network governance leadership and job performance (indirect effect = .10 (95% CI [.026, .179])).

[Table 2 here]

[Table 3 here]

To determine whether one of the leadership approaches was a better predictor of PSM and, subsequently, individual job performance than other leadership approaches, we analyzed the four public leadership measures simultaneously. As shown in table 4, when analyzed simultaneously, network governance leadership was the only public leadership approach that was still significantly related to PSM ($\beta = .46, p < .01$) and, subsequently, follower job performance when all four public leadership approaches were included in the model (.10 (95% CI [.026, .180])). We also created a second-order latent factor, public leadership, composed of all four public leadership approaches. This factor was found to be significantly related to PSM ($\beta = .79, p < .01$) and, subsequently, job performance (.14 (95% CI [.035, .264])).

[Table 4 here]

Discussion

Based on three-wave data gathered from 300 Chinese civil servants and their 64 direct supervisors, our study demonstrates that accountability, rule-following, political loyalty, and network governance leadership are significantly positively related to the job performance of civil servants through the mediating mechanism of PSM. In line with social learning theory (Bandura 1977), our findings suggest that supervisors act as role models for their employees to follow, which helps to foster higher levels of PSM among their employees. In turn, by having higher levels of PSM, employees are more likely to perform better in their day-to-day public service roles (Schwarz et al. 2016). Therefore, this study makes a number of contributions to our understanding of public leadership.

Theoretical Implications

Our research extends previous work by Tummers and Knies (2016) by being the first study to analyze the relationship among the four public leadership approaches and both PSM and job

performance. We extend the nomological network of PSM and job performance by identifying public leadership as an antecedent of both constructs, providing new insights into the complex PSM-performance relationship (Schott, Van Cleef, and Steen 2015). Based on a study conducted with methodological rigor (i.e., drawing on two source and multi-time point data), we have been able to establish the distinctiveness, predictive validity, multilevel properties, and discriminant validity of the four public leadership approaches in a novel context, the Chinese public sector. We now have more confidence that the four public leadership measures work adequately and can be used in future studies.

The current study also contributes to the understanding of social learning theory in the public sector context. As social learning theory posits, followers need to observe others to emulate them (Bandura 1977). Therefore, it is important for public leaders to actively engage their followers. For example, when making decisions, having discussions with followers about how these decisions increase accountability, how they are following governmental regulations, and how they are demonstrating political loyalty should strengthen the social learning process between these approaches to public leadership and followers' PSM.

The fact that network governance leadership was found to have the strongest relationship with PSM and job performance demonstrates the importance of "treating networks seriously" (O'Toole 1997, 45). O'Leary, Choi, and Gerard (2012, 70) noted that much of the research on networks focuses on organizations, "with the role of the individual in collaborations receiving limited attention." Our research demonstrates the important role that leaders play in improving PSM and job performance when they encourage their employees to establish informal linkages with employees in other organizations and to collaborate on a regular basis with people from their networks. By doing so, these leaders turn their employees into boundary spanners (Williams 2002). Networking allows the boundary spanners to exchange information, for example, about the perspectives, interests, values,

constraints, and preferred outcomes of important stakeholders and to generate external support (Kapucu 2006). Establishing personal relationships with people outside the department enables employees to identify areas of communality and interdependency and to improve performance by combining strengths (Hall and Battaglio 2018; Williams 2002).

In an “age of networks and collaboration” (McGuire 2006, 34), a “collaboration imperative” (Kettl 2006, 10) exists because no single organization has the financial resources, problem-solving capacities, knowledge, and legitimacy to tackle wicked problems (Weber and Khademian 2008). To deal with complexities, public organizations need to coordinate their strategic moves with diverse stakeholders, such as other public agencies, private firms, and nonprofit service providers, who frequently adhere to different institutional logics and perceptions (Mosley and Sharpe 2019). In this type of environment, the traditional hierarchical forms of government and New Public Management prescriptions that were intended to make bureaucracies more efficient and effective are not sufficient (Klijn and Koppenjan 2016). As a consequence, the three other public leadership approaches that refer to the traditional-legal authority of a bureaucratic system had a weaker relationship with job performance than network governance leadership.

The results also revealed that political loyalty leadership exhibited a weaker relationship with PSM ($\beta = .18$) than the other three leadership approaches, and it was the only leadership approach that was not related to job performance when PSM was in the model. Our findings are consistent with Tummers and Knies’ (2016) original study, in which political loyalty leadership had a weaker influence on all tested individual-level constructs (organizational commitment, work engagement, turnover intentions, organizational citizenship behaviors, and job satisfaction) than the other three public leadership approaches. We concur with Tummers and Knies that political loyalty leadership may have a greater influence on organizational outcomes, such as effective public policy execution, than on

individual-level work outcomes because political loyalty may contradict an employee's own values and preferences, e.g., for even more rigorous environmental standards that favor other stakeholders.

Practical Implications

As public leadership was positively related to performance in the current study, public sector organizations could provide training that helps supervisors at all levels to develop and display these leadership approaches. Combining classroom instruction with coaching, the provision of multisource feedback and experiential training has been found to be a particularly helpful training method to improve leadership and organizational outcomes (Seidle, Fernandez, and Perry 2016).

Motivating employees to invest time and energy in the development and maintenance of relationships outside their organization seems to be particularly important for Chinese public leaders because employees may hesitate to do so without being told. Lu (2015) found that Chinese civil servants have very limited connections with contacts outside their organization. On average, they only had outward contact once every three months. Our research demonstrates the importance of encouraging employees to interact with people in other organizations. Relationship orientation is an important principle in Confucianism and “guanxi” (Chinese for relationship or connection), which plays an important role in Chinese society (Ni and Zhan 2017). Once guanxi is established, there is a reciprocal obligation to deal with requests, which translates into higher job performance as it provides access to information and resources.

This outward focus of the civil servants is particularly important as recent reforms aim at involving a broader set of organizations in public policy formulation and implementation (Ni and Zhan 2017). Whereas earlier reforms were focused on internal

capacity building to ensure that the civil service can keep up with economic development, power sharing and participation have garnered support as the means to provide legitimacy and higher citizen satisfaction (Xue and Liou 2012). Hensengerth and Lu (2019, 122) noted that “China, recognizing the severity of environmental degradation and the need to improve environmental governance to avert crises, the central government has introduced legislation for public participation in environmental decision-making.” As the Chinese government still lacks experience and expertise in managing networks (Lu 2015), it is essential that supervisors in public agencies encourage their employees to initiate and maintain relationships with contacts outside their organizations. To avoid abuses, leaders should also articulate the boundaries of networking activities.

Limitations and Future Research

Although our article contributes to the understanding of the relationship among public leadership, PSM, and performance, it is not without limitations. Our research design does not allow causal conclusions. Future research should use panel data with experimental variation of the public leadership approaches, e.g., through the random assignment to groups that receive different leadership interventions (e.g., Bellé 2014). Additionally, while we collected data from two sources across three time points separated by one month each, we cannot completely rule out that common method variance exists in our study as the leadership variables and PSM were measured from the same source (Andersen, Heinesen, and Pedersen 2016). Future research should employ longer time intervals between the data collection points and measure the same variables across multiple time points (George and Pandey 2017).

As Tummers and Knies’ (2016) public leadership construct is relatively novel, we suggest that qualitative research be conducted to shed light on the extent to which public leaders act as role models. Future studies should also examine the distinctiveness of public

leadership from established leadership approaches, such as transformational and transactional leadership (Jacobsen and Andersen 2015). We also suggest measuring leaders' PSM in future research on public leadership as the motivations of the leader may influence their leadership approaches and follower PSM (see Van Loon 2016; Wright, Hassan, and Park 2016).

Considering the small size of the R^2 value in this study, which examines leadership alone, understanding the interactions between public leadership and its environment to elicit performance should be of great interest.

Finally, we conducted our study in a water resource bureau and an environmental bureau. Both Agranoff (2007) and Klijn and Koppenjan (2016) use water and environment as examples of wicked problems that require the collaboration of multiple actors. Hence, the strong links between PSM, individual job performance, and networked governance leadership may be influenced by the type of organizations that we examined. Future studies may test our model in more traditional agencies and with samples with different educational backgrounds.

Conclusion

The purpose of this research was to analyze the relationship among four public leadership approaches and both PSM and job performance. Based on dyadic data collected at three time points from Chinese civil servants and their supervisors, we found that accountability, rule-following, political loyalty, and network governance leadership approaches were significantly positively related to the PSM levels of followers, which in turn were significantly positively associated with higher levels of job performance. Network governance leadership was found to have the strongest relationship with both PSM and job performance, suggesting that managers should encourage their employees to nurture connections with contacts outside their organizations. Our results demonstrate the important performance-enhancing capacities of leadership.

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Table 1 Confirmatory Factor Analysis (Individual) of Public Leadership

Items	Factor Loadings	Second-Order CFA Loadings	Individual / Team Alphas	ICC(1) ICC(2)	Median <i>r_{WGJ}</i>
<i>Accountability Leadership</i>		.745	.91, .93	.12, .40	.94
Encourages me and my colleagues to explain our actions to various stakeholders.	.689				
Encourages us to inform stakeholders of our way of working.	.809				
Provides us with the opportunity to explain our behavior to stakeholders.	.831				
Emphasizes that it is important that we answer questions from clients.	.810				
Strives to ensure that we openly and honestly share the actions of our organizational unit with others.	.758				
Encourages us to explain to stakeholders why certain decisions were taken.	.808				
<i>Rule-following Leadership</i>		.649	.91, .95	.29, .65	.92
Emphasizes to me and my colleagues that it is important to follow the law.	.838				
Gives me and my colleagues the means to properly follow governmental rules and regulations.	.853				
Emphasizes that my colleagues and I should carry out government policies properly.	.874				
Ensures that we accurately follow the rules and procedures.	.828				
<i>Political Loyalty Leadership</i>		.424	.89, .91	.27, .61	.92
Encourages me and my colleagues to support political decisions, even when other stakeholders confront us with it.	.801				
Encourages me and my colleagues not to jeopardize the relationship with political heads, even if that entails risks.	.780				
Encourages me and my colleagues to implement political decisions, even if that means undertaking additional responsibilities.	.858				
Encourages me and my colleagues to defend political choices, even if we see shortcomings.	.743				
Encourages me and my colleagues to support political decisions, even when we see downsides.	.757				
<i>Network Governance Leadership</i>		.803	.78, .85	.29, .65	.94
Encourages me and my colleagues to maintain many contacts with other organizations.	.536				
Encourages me and my colleagues to invest substantial energy in the development of new contacts.	.706				
Motivates me and my colleagues to regularly work together with people from our networks.	.524				
Motivates me and my colleagues to develop many contacts with people outside our own department.	.673				
Encourages me and my colleagues to introduce others to contacts of our own networks.	.677				
Encourages me and my colleagues to be a ‘linchpin’ between different organizations.	.548				

Table 2 Means, Standard Deviations, Reliabilities and Correlations among the Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
<i>Team Level</i>										
1 Supervisor Age	41.99	4.97	-							
2 Supervisor Gender ^a	1.42	0.50	-.06	-						
3 Supervisor Education ^b	2.28	0.84	-.12	-.02	-					
4 Team Size	4.69	1.10	-.06	.04	.05	-				
5 Accountability Leadership	3.49	0.38	.10	-.02	.04	.00	(.93)			
6 Rule-following Leadership	3.81	0.56	.29*	-.01	-.12	.02	.68**	(.95)		
7 Political Loyalty Leadership	3.39	0.54	.05	-.10	.20	-.11	.37**	.39**	(.91)	
8 Network Governance Leadership	3.74	0.41	.07	-.03	.16	.11	.62**	.53**	.18	(.85)
<i>Individual Level</i>										
1 Age (years)	34.02	5.75	-							
2 Gender ^a	1.53	0.50	.02	-						
3 Education ^b	2.31	1.23	-.07	-.01	-					
4 Tenure under the leader (years)	3.84	2.47	.54	-.10	-.07	-				
5 Organizational tenure (years)	5.91	3.39	.60	-.10	-.07	.78**	-			
6 Public Service Motivation	3.96	0.67	-.01	-.03	.08	.04	.01	(.82)		
7 Individual Job Performance	3.99	0.65	-.01	.01	.02	-.02	-.07	.26**	(.81)	

N = 300 for individual level variables; *N* = 64 for team level variables.

* $p < .05$, ** $p < .01$. Cronbach's alpha coefficients on the diagonal.

^a Gender coded: 1 = male; 2 = female

^b Education coded: 1 = high school, 2 = undergraduate, 3 = master's degree, 4 = technical college.

Table 3 Results of Multilevel Mediation Analysis

	Accountability Leadership		Rule-following Leadership		Political Loyalty Leadership		Network Governance Leadership	
	PSM	Performance	PSM	Performance	PSM	Performance	PSM	Performance
<i>Within (Level 1)</i>								
Age	-.03	.04	-.05	.03	-.03	.04	-.03	.04
Gender	-.03	-.02	-.04	-.02	-.02	-.01	-.01	-.01
Education	.03	-.02	.03	-.01	.04	-.01	.02	-.01
Tenure under Leader	.09	.07	.09	.06	.08	.06	.07	.06
Organizational Tenure	-.06	-.16	-.04	-.15	-.04	-.14	-.04	-.14
Public Service Motivation		.20**		.20**		.20**		.21**
<i>Between (Level 2)</i>								
Supervisor Age	.07	.01	.02	-.02	.09	.02	.06	.01
Supervisor Gender	.01	-.03	.01	-.03	.02	-.02	.02	-.02
Supervisor Education	.00	-.09	.04	-.07	-.02	-.09	-.06	-.11*
Team Size	.15	.07	.15	.07	.18	.08	.11	.05
Accountability Leadership	.31**	.20*						
Rule-following Leadership			.31**	.18*				
Political Loyalty Leadership					.18*	.05		
Network Governance Leadership							.47**	.20*
<i>Standardized Indirect Effect</i>								
	.06		.06		.04		.10	
	95% CI [.013, .126]		95% CI [.012, .134]		95% CI [.000, .091]		95% CI [.026, .179]	
<i>R</i> ²	.14	.09	.11	.11	.06	.09	.29	.10

N = 300 for within level; *N* = 64 for between level; * *p* < .05, ** *p* < .01.

Table 4 Results of Simultaneous Analysis of the Public Leadership Approaches

	Four Leadership Approaches in a Single Model		Combined Public Leadership Factor	
	Public Service Motivation	Individual Performance	Public Service Motivation	Individual Performance
<i>Within (Level 1)</i>				
Age	-.03	.03	-.06	.03
Gender	-.02	-.02	-.05	-.02
Education	.02	-.02	.02	-.02
Tenure under Leader	.08	.06	.11	.07
Organizational Tenure	-.05	-.15	-.08	-.17
Public Service Motivation		.21**		.18**
<i>Between (Level 2)</i>				
Supervisor Age	.06	-.01	.06	-.03
Supervisor Gender	.03	-.03	.02	-.07
Supervisor Education	-.09	-.10	-.03	-.27
Team Size	.12	.05	.22	.16
Accountability Leadership	.01	.11	-	-
Rule-following Leadership	-.03	.06	-	-
Political Loyalty Leadership	.12	-.02	-	-
Network Governance Leadership	.46**	.10	-	-
Combined Public Leadership Factor			.79**	.67*
<i>R</i> ²	.30	.11	.22	.10

N = 300 for within level; *N* = 64 for between level; * *p* < .05, ** *p* < .01.

Appendix 1 Items and Factor Loadings for Public Service Motivation and Job Performance

Items	Factor Loadings	Cronbach's Alpha
<i>Public Service Motivation</i>		.82
Meaningful public service is very important to me.	.655	
I am often reminded by daily events about how dependent we are on one another.	.738	
Making a difference in society means more to me than personal achievements.	.698	
I am prepared to make enormous sacrifices for the good of society.	.697	
I am not afraid to go to bat for the rights of others even if it means I will be ridiculed	.661	
		.81
<i>Individual Job Performance</i>		
He/she is very competent	.793	
He/she gets his/her work done very effectively	.822	
He/she has performed his/her job well	.709	